



RECEIVED  
FEB 03 2003  
TECH CENTER 160012900

SEQUENCE LISTING

<110> Polverino, Anthony J.  
Luethy, Roland

<120> Secreted Epithelial Colon Stromal-1 Molecules and Uses  
Thereof

<130> 00-450

<140>

<141>

<160> 22

<170> PatentIn Ver. 2.0

<210> 1

<211> 744

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (38)..(274)

<400> 1

gcttctctccc taggcgtgag actccggctc cttcact atg aga ctt cta gcc ctt 55  
Met Arg Leu Leu Ala Leu  
1 5

2 tcc ggt ctg ctc tgc atg ctg ctc ctc tgt ttc tgc att ttc tcc tca 103  
Ser Gly Leu Leu Cys Met Leu Leu Leu Cys Phe Cys Ile Phe Ser Ser  
10 15 20

gaa ggg aga aga cat cct gcc aag tcc ttg aaa ctc agg cgc tgc tgt 151  
Glu Gly Arg Arg His Pro Ala Lys Ser Leu Lys Leu Arg Arg Cys Cys  
25 30 35

cac cta tct cct aga tcc aag ctg aca acc tgg aaa gga aac cac aca 199  
His Leu Ser Pro Arg Ser Lys Leu Thr Thr Trp Lys Gly Asn His Thr  
40 45 50

agg ccc tgc aga ctc tgc aga aac aag cta cca gtc aag tca tgg gtg 247  
Arg Pro Cys Arg Leu Cys Arg Asn Lys Leu Pro Val Lys Ser Trp Val  
55 60 65 70

gtg cct ggg gct ctc cca cag ata tag ggcctcctcc gccagatga 294  
Val Pro Gly Ala Leu Pro Gln Ile  
75

agcgttgatg cccagatgtg gagacaccag aagcatacac actatgttgc cttgcccctt 354

gccaatgagc tgtgacactg gaatgcttca cttcagacat cagggcggat ggattgcaga 414

attccaagtc ctcattccaa aggtgtcacc aaccttcaga gtcactaagg tccaggctca 474

gcccacaagt caccatggct cctccagagt aaaagtccaa gattccacct gtgggagcta 534  
cagatccaga gactttcaag ctgactagag tgcagagaag caagacctca gtgtgatcag 594  
ccgagactac agcatcttgg gaaccctcag tcagcccca acccctaaca cttaccact 654  
gggtotccaaa ccaacacctg taacttcta atgaaatcat caggaggata ccaaagaaa 714  
taaaccataa atcagcatac aactaaaaa 744

<210> 2  
<211> 78  
<212> PRT  
<213> Mus musculus

<400> 2  
Met Arg Leu Leu Ala Leu Ser Gly Leu Leu Cys Met Leu Leu Leu Cys  
1 5 10 15  
Phe Cys Ile Phe Ser Ser Glu Gly Arg Arg His Pro Ala Lys Ser Leu  
20 25 30  
Lys Leu Arg Arg Cys Cys His Leu Ser Pro Arg Ser Lys Leu Thr Thr  
35 40 45  
Trp Lys Gly Asn His Thr Arg Pro Cys Arg Leu Cys Arg Asn Lys Leu  
50 55 60  
Pro Val Lys Ser Trp Val Val Pro Gly Ala Leu Pro Gln Ile  
65 70 75

<210> 3  
<211> 54  
<212> PRT  
<213> Mus musculus

<400> 3  
Arg Arg His Pro Ala Lys Ser Leu Lys Leu Arg Arg Cys Cys His Leu  
1 5 10 15  
Ser Pro Arg Ser Lys Leu Thr Thr Trp Lys Gly Asn His Thr Arg Pro  
20 25 30  
Cys Arg Leu Cys Arg Asn Lys Leu Pro Val Lys Ser Trp Val Val Pro  
35 40 45  
Gly Ala Leu Pro Gln Ile  
50

<210> 4  
<211> 806  
<212> DNA  
<213> Homo sapiens

<220>  
 <221> CDS  
 <222> (29)..(274)

<400> 4  
 ggaacgaggg aaaatctgcc ttctcacc atg agg ctt cta gtc ctt tcc agc 52  
 Met Arg Leu Leu Val Leu Ser Ser  
 1 5

ctg ctc tgt atc ctg ctt ctc tgc ttc tcc atc ttc tcc aca gaa ggg 100  
 Leu Leu Cys Ile Leu Leu Cys Phe Ser Ile Phe Ser Thr Glu Gly  
 10 15 20

aag agg cgt cct gcc aag gcc tgg tca ggc agg aga acc agg ctc tgc 148  
 Lys Arg Arg Pro Ala Lys Ala Trp Ser Gly Arg Arg Thr Arg Leu Cys  
 25 30 35 40

tgc cac cga gtc cct agc ccc aac tca aca aac ctg aaa gga cat cat 196  
 Cys His Arg Val Pro Ser Pro Asn Ser Thr Asn Leu Lys Gly His His  
 45 50 55

gtg agg ctc tgt aaa cca tgc aag ctt gag cca gag ccc cgc ctt tgg 244  
 Val Arg Leu Cys Lys Pro Cys Lys Leu Glu Pro Glu Pro Arg Leu Trp  
 60 65 70

gtg gtg cct ggg gca ctc cca cag gtg tag cactcccaaa gcaagactcc 294  
 Val Val Pro Gly Ala Leu Pro Gln Val  
 75 80

agacagcgga gaacctcatg cctggcacct gaggtacca gcagcctcct gtctcccctt 354  
 tcagccttca cagcagttag ctgcaatggt ggagggcttc atctcgggct gcaaggaccc 414  
 tgggaaagtt ccagaaactc acgtccttgt ctcaattgtg ccatcaactt tcagagctat 474  
 catgagccaa cctcacccca cagggcctca gtcgccacca tgtgggcctc tccagtgc 534  
 accaccgagc attccaccat gaccggtcac agctacaaat ccagagacca tcaatcctgc 594  
 tagagtgcag ggtggcaagc acccaagggg ggctgaccaa gactgcagag tctcctccat 654  
 cttcaggtcc attcagcctc ctggcattta actaccagca tccagtgggc cccaaggaat 714  
 cccttcctag cctcctgaca tgagtctgct ggaaagagca tccaaacaaa caagtaataa 774  
 ataaataaat aaactcaatg cagacacaaa aa 806

<210> 5  
 <211> 81  
 <212> PRT  
 <213> Homo sapiens

<400> 5  
 Met Arg Leu Leu Val Leu Ser Ser Leu Leu Cys Ile Leu Leu Leu Cys  
 1 5 10 15

Phe Ser Ile Phe Ser Thr Glu Gly Lys Arg Arg Pro Ala Lys Ala Trp  
20 25 30

Ser Gly Arg Arg Thr Arg Leu Cys Cys His Arg Val Pro Ser Pro Asn  
35 40 45

Ser Thr Asn Leu Lys Gly His His Val Arg Leu Cys Lys Pro Cys Lys  
50 55 60

Leu Glu Pro Glu Pro Arg Leu Trp Val Val Pro Gly Ala Leu Pro Gln  
65 70 75 80

Val

<210> 6

<211> 57

<212> PRT

<213> Homo sapiens

<400> 6

Lys Arg Arg Pro Ala Lys Ala Trp Ser Gly Arg Arg Thr Arg Leu Cys  
1 5 10 15

Cys His Arg Val Pro Ser Pro Asn Ser Thr Asn Leu Lys Gly His His  
20 25 30

Val Arg Leu Cys Lys Pro Cys Lys Leu Glu Pro Glu Pro Arg Leu Trp  
35 40 45

Val Val Pro Gly Ala Leu Pro Gln Val  
50 55

<210> 7

<211> 77

<212> PRT

<213> Rattus norvegicus

<400> 7

Met Arg Leu Leu Thr Leu Ser Gly Leu Phe Phe Met Leu Phe Leu Cys  
1 5 10 15

Leu Cys Val Leu Ser Ser Glu Gly Arg Lys Arg Pro Ala Lys Phe Pro  
20 25 30

Lys Leu Arg Pro Arg Cys His Leu Ser Pro Arg Ser Lys Pro Ile Thr  
35 40 45

Trp Lys Gly Asn His Thr Arg Pro Cys Arg Pro Cys Arg Lys Leu Glu  
50 55 60

Ser Asn Ser Trp Val Val Pro Gly Ala Leu Pro Gln Ile  
65 70 75

<210> 8

<211> 4159  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (160)..(169)

<220>  
<221> unsure  
<222> (3884)..(3893)

<220>  
<221> exon  
<222> (1)..(69)

<220>  
<221> exon  
<222> (2627)..(2725)

<220>  
<221> exon  
<222> (4079)..(4159)

<400> 8  
atg agg ctt cta gtc ctt tcc agc ctg ctc tgt atc ctg ctt ctc tgc 48  
ttc tcc atc ttc tcc aca gaa ggtagggcag cccccagggt gcagatccct 99  
gagcaggatt tcagcatctg ggaagactct gatcaggatt tgttggaggg caggccttgg 159  
nnnnnnnnnn cgcgcgtact tccagccccg tggatgaagac gaaagagggc tctttctcct 219  
gaacctatag gtttggggct caggactgcc tgcaggtggc ttgggggttc cattcacagc 279  
ccctgcaccc ccaaatacat acccagccta agtaaagtgg tgtgttcgcc atgcaaacac 339  
acatacaacc tctcagctag attactgtgc ttaagtctta cctatctaga atttctggag 399  
ccattctctt gtacttgtgt catgcttgga acagagtaaa ttagtggttg gcaaatgaat 459  
acattaatta gtagaccatc taagtctgaa catccccaaa cctcatgccc agaaaatata 519  
catgagcagc tgaaatgaag gtgtgtgtgg tagggaggtg gggatatgtt atgcatgttt 579  
agaaggggac accatctttt tacctctata gatatgaata tttagctctc ttgccctttt 639  
ttcttttttc tttttttttt ttttttgag atggagtctt gctctgtcac ccaggctgga 699  
gtgcagtggc gctatctcag ctcaactgcaa tctccgcctc ctgggttcaa gcaattctct 759  
gcctcagcct cccaagtagc tgagattaca ggtgccacc accaagccca gctaattttt 819  
gtatttttag tacagacagg ttccaccatc ttggccaggc tgggtcttgaa ctctaacct 879  
cgtaatcctc ccacctcggc ctcccaaagt gctgggatta caggcgtgag ccaccatgcc 939

tggctgcctt tcttgattca gatagctgag tgtttcaatc ctttttctc ttgtctaacc 999  
 ctctagaaac tgcctacatt tttttttgt tttagtgggt atggttactc aaacttttgg 1059  
 gtgggggggag ctggagctat agaaatatat aaagagaaga aaaacactca attccatgat 1119  
 tcaagagtag ccatgttcaa ctttttgttt atttccttgc atgtagaatt tttaaaaatt 1179  
 aattgatgta cctatatgtt caagggtata tcttttttat ttatcactat atatattgtt 1239  
 ataatcacc cccaaatgctta tgattgaaga tttcttgaa gcatttaca cccagtgtca 1299  
 gcagcagcca tctctgagta gtgggattat aacaagtgtt tgttttaca agtttctgcg 1359  
 atgaaaatgt cccacatata taataaggaa aacagtgtt agaattctc ataaacacag 1419  
 cccgtgacat gcaatttctc agacctctat ttttggacat gttggagggt gccagtgata 1479  
 ccctagtgc aattaaatga ggatagatac cttcccccatt aaagtctctc atccatttag 1539  
 gactatctgt agcaaactct tgaagtagca ttaatcaact aatattttca ggtataactt 1599  
 gctacaagtg aacgtactat gatgaattta catgcttaga ctttagata gttcacaatt 1659  
 gtgtgctttt ctttttttga agcaagatct tgcctctctg cccaggctcg agtgcagtgg 1719  
 catgaccacg gctcagtgc ggcttgactt ccagggtcag agcaatactc gcacctcagg 1779  
 ttttccagta gctgggaaaa cagggtgcga ccacaatgcc ctgctaattt ttaaaatttt 1839  
 ttgcagagac gaggtctctc taagttgcc aggtgtgtct tgaacttctg gactcaagcc 1899  
 atcctccac cttggcctcc cagagtgcga ggatcacagg catgagccac cacacctggc 1959  
 ctactttgca ctttttaatt atgtggtaaa aggtatatat gtacataaag tatgtccttt 2019  
 attcaggctt tttttctttt tttctttttt ttattttttt gagacgaagt ttttgctctt 2079  
 gttgtccagg ctggagtgt atggcatgct cttggctcac cacaacctcc gcctcccggt 2139  
 ttcaagtgat tctcctgcct caacctcctg agtagctggg attacaggca tgcaccaaca 2199  
 tgccaggctg attttgtatt tttagtagag atggggtttc tccatgttgg tcaggctggt 2259  
 ctggaacact cgacctcaag tgatccgccc acctcagcct cccaaagagc taggattaca 2319  
 ggcattgagc accacacca gctcagggtt tttttctta ggctagattg ccaaggggag 2379  
 aattattatg tcaaagaaac tacttattgg acaggaatct gaaaaggatg tgttttgggg 2439  
 ccatgtgtct cccaacattg ttatttctga aaagtaaact acaacaaggc ccactctttc 2499  
 cctaggacct ctgtagcct ggctcatcct gagtttctct ggataaatat tctgagccc 2559  
 tgtgccttgg aaggggaagc tcactcacag acaagcccac taaagacagt ctctcttct 2619  
 ttgtgtc cac cct cag gga aga ggc gtc ctg cca agg cct ggt cag gca 2668

D<sup>2</sup>  
 CNF

gga gaa cca ggc tct gct gcc acc gag tcc cta gcc cca act caa caa 2716  
 acc tga aag gtaagtaccc ccacctcgtc cagactgtgg ggcagaagtt 2765  
 ctacagtggc catgggacca gccacacaca ctgatacagcc cccacccatg gctggcatca 2825  
 ggctctggct gggaggacat ctttgttttg ttgattaatt tgttgactcc cccccaaaag 2885  
 tcaacaaatt aatcatttta aactgaatac attctgccat ggaaaaaaag caggatgcaa 2945  
 ttagcagatg ttgtgtggaa acacacttac tttaggtgga aggtgtctga gcaggtgaca 3005  
 tttatgagac ctggctcatt tatgagccag gagcctggct gaggcctgtg gaggtggggc 3065  
 atgcaggcag aggaggcagc aagggtgaag ggcaagagtg gggatatgaa gacagatggc 3125  
 agcagggctt gagaggtact ccagaagct aaggaccaa gctgcctgtg aaccctgtgg 3185  
 acctggggca cagatcagca tgcaggtcac cagcagggga gtgggcctga gggccagag 3245  
 agccatagct tggcaggaga taaggcagcc ccagagatgc cagcaggcag catccaggct 3305  
 gcatgaccag aacgaggccc agaagagcaa ggctgcctc tccctgaggc ctggggacac 3365  
 tgggaggcct gtggcggaca ggcccaagct caggagggct gcgggcaccc agttccctgc 3425  
 acaggggctg caggcccaga gcagatatc actggagttg ccagcccag gtggaagggt 3485  
 caggctgctg gagcttgggt agggcaggca gatccccaag gggagactgt ggaccctgag 3545  
 tcagacagcc tgacaccaac ctggggctcc tgctgaact ctgcagcccc agtgcccact 3605  
 ctcaagaggc tgaggaggtc ccggccccac ttgtctctct gcggccatgg cccatggggc 3665  
 ccatgaccag cgccggagcc tccatgcctt tcccagctac caaggggatg ctcagctgtg 3725  
 atgcaggaga gggatagagg gaggaagcaa gacagcatga ctccagccgc agaccttctc 3785  
 ccggagatgc tgacagccct ttcttccaaa ctggcatcac acccagccgg ccaggataaa 3845  
 aataaccagc tcgtcttcac cacgggctga aggatccnn nnnnnnnca cgaaaagccc 3905  
 cttctggggc tccagggaaa agcataagat ctaattcttg ctttgaaatt tttttttaa 3965  
 tgtgtttgaa aatgcaactt aattgtgttt tctctctct cccacaacc tggctctgac 4025  
 ctgcccatt tctgtcctt gtccctcttg tctactcatt gctcctcca gga cat 4081  
 cat gtg agg ctc tgt aaa cca tgc aag ctt gag cca gag ccc cgc ctt 4129  
 tgg gtg gtg cct ggg gca ctc cca cag gtg 4159

<210> 9  
 <211> 23  
 <212> PRT

<213> Homo sapiens

<400> 9

Met Arg Leu Leu Val Leu Ser Ser Leu Leu Cys Ile Leu Leu Leu Cys  
1 5 10 15

Phe Ser Ile Phe Ser Thr Glu  
20

<210> 10

<211> 30

<212> PRT

<213> Homo sapiens

<400> 10

Gly Lys Arg Arg Pro Ala Lys Ala Trp Ser Gly Arg Arg Thr Arg Leu  
1 5 10 15

Cys Cys His Arg Val Pro Ser Pro Asn Ser Thr Asn Leu Lys  
20 25 30

<210> 11

<211> 28

<212> PRT

<213> Homo sapiens

<400> 11

Gly His His Val Arg Leu Cys Lys Pro Cys Lys Leu Glu Pro Glu Pro  
1 5 10 15

Arg Leu Trp Val Val Pro Gly Ala Leu Pro Gln Val  
20 25

<210> 12

<211> 11

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 12

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg  
1 5 10

<210> 13

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: internalizing  
domain derived from HIV tat protein

<400> 13

Gly Gly Gly Gly Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg



1

5

10

15

&lt;210&gt; 14

&lt;211&gt; 21

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: PCR primer  
corresponding to human SECS-1

&lt;400&gt; 14

cccaactcaa caaacctgaa a

21

&lt;210&gt; 15

&lt;211&gt; 17

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: PCR primer  
corresponding to human SECS-1

&lt;400&gt; 15

gggaccactg gatgctg

17

&lt;210&gt; 16

&lt;211&gt; 21

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: PCR primer  
corresponding to murine SECS-1

&lt;400&gt; 16

actccggctc cttcactatg a

21

&lt;210&gt; 17

&lt;211&gt; 23

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: PCR primer  
corresponding to murine SECS-1

&lt;400&gt; 17

atgtgggcat catcaacgct tta

23

&lt;210&gt; 18

&lt;211&gt; 42

<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer  
corresponding to human SECS-1

<400> 18  
aaataacata tgaaacgtcg tccagctaaa gctggtcag gc

42

<210> 19  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer  
corresponding to human SECS-1

<400> 19  
ggtgatggtg atggtgcacc tgtgggagtg cccc

34

<210> 20  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer  
corresponding to human SECS-1

<400> 20  
gtggtagtg tagtggtagt aactatccta ggtatatt

37

<210> 21  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SECS-1 antigen

<400> 21  
Cys Trp Val Val Pro Gly Ala Leu Pro Gln Ile  
1 5 10

<210> 22  
<211> 81  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial Secs-1

polypeptide sequence generated from an amino acid sequence  
comparison of the human, murine, and rat Secs-1 polypeptides

<220>  
<221> UNSURE  
<222> (5)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (8)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (10)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (11)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (12)  
<223> "Xaa" can be either methionine or isoleucine

D2  
ack  
<220>  
<221> UNSURE  
<222> (14)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (17)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (18)  
<223> "Xaa" can be either cysteine or serine

<220>  
<221> UNSURE  
<222> (19)  
<223> "Xaa" can be either isoleucine or valine

<220>  
<221> UNSURE  
<222> (20)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (22)  
<223> "Xaa" can be either serine or threonine

<220>  
<221> UNSURE  
<222> (25)  
<223> "Xaa" can be either arginine or lysine

<220>  
<221> UNSURE  
<222> (26)  
<223> "Xaa" can be either arginine or lysine

<220>  
<221> UNSURE  
<222> (27)  
<223> "Xaa" can be either histidine or arginine

<220>  
<221> UNSURE  
<222> (31)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (32)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (33)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (34)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (36)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (37)  
<223> "Xaa" can be any naturally occurring amino acid or may be absent

<220>  
<221> UNSURE  
<222> (38)  
<223> "Xaa" can be any naturally occurring amino acid or may be absent

<220>  
<221> UNSURE  
<222> (39)  
<223> "Xaa" can be any naturally occurring amino acid or may be absent

<220>

<221> UNSURE  
<222> (40)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (43)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (44)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (46)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (47)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (48)  
<223> "Xaa" can be any naturally occurring amino acid

D<sup>2</sup>  
✓  
<220>  
<221> UNSURE  
<222> (49)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (50)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (51)  
<223> "Xaa" can be either threonine or asparagine

<220>  
<221> UNSURE  
<222> (52)  
<223> "Xaa" can be any naturally occurring amino acid

<220>  
<221> UNSURE  
<222> (55)  
<223> "Xaa" can be either asparagine or histidine

<220>  
<221> UNSURE  
<222> (57)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (59)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (61)

<223> "Xaa" can be either arginine or lysine

<220>

<221> UNSURE

<222> (62)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (64)

<223> "Xaa" can be either arginine or lysine

<220>

<221> UNSURE

<222> (65)

<223> "Xaa" can be any naturally occurring amino acid or may be absent

<220>

<221> UNSURE

<222> (66)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (67)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (68)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (69)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (70)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (71)

<223> "Xaa" can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (81)

<223> "Xaa" can be either isoleucine or valine

<400> 22

Met Arg Leu Leu Xaa Leu Ser Xaa Leu Xaa Xaa Xaa Leu Xaa Leu Cys  
1 5 10 15

Xaa Xaa Xaa Xaa Ser Xaa Glu Gly Xaa Xaa Xaa Pro Ala Lys Xaa Xaa  
20 25 30

Xaa Xaa Arg Xaa Xaa Xaa Xaa Xaa Cys His Xaa Xaa Pro Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Lys Gly Xaa His Xaa Arg Xaa Cys Xaa Xaa Cys Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Trp Val Val Pro Gly Ala Leu Pro Gln  
65 70 75 80

Xaa